

Small Electronic Devices (<4m²) within School Zones

General Location and Operation Fact Sheet

August 2019

Purpose

The purpose of this factsheet is to provide guidance to schools to ensure road safety around schools is not compromised through driver distraction due to the operation of Small Electronic Devices (SED). Schools use these devices to communicate with their school and local community.

Context / Rationale

While the department of Transport and Main Roads (TMR) does not have the authority over signs in school grounds, except under specific circumstances, these guidelines are provided to assist schools in setting general location, operation and message requirements for SED. It is recommended that these guidelines be adopted in the interests of maintaining the safety of school children, pedestrians and road users in and around schools.

SED located outside school zones shall follow the criteria for billboards (<4m²) in TMR's current version of the [Roadside Advertising Manual \(RAM\)](#), Technical Volume. A copy of the RAM can be found on the TMR website: <https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Roadside-advertising-manual>

General Location

Locating SED close to intersections, pedestrian crossings or within a school zone is of particular concern to the department due to the proximity of traffic lights, regulatory signs, and the many conflict points between school children, vehicles, cyclists and other pedestrians in these areas. Distracted motorists are a road safety concern.

General principles for SED include:

- may form part of the school identification signage or be a stand-alone device
- must be located within the school property (not in the road corridor)
- should not be placed where visible to motorists travelling in an 80km/h or higher speed zone
- should be located and orientated such that light emitted from the device does not cause a hazard for road users or local residents
- should not be located:
 - near and not compete with traffic management / control devices for a driver's attention
 - at or near an intersection
 - at or near pedestrian crossing facilities.

The location selected should be based on easy viewing and reading by motorists and pedestrians. Ideally the device should be located away from areas that would normally require increased attention or care from drivers.

Size and number of screens

SED may have up to a maximum of one display screen on each face, with a maximum of two display screens on the one sign (double sided).

Each electronic display screen has a maximum size of less than 4 m².

Operating Principles

How the SED are used and operated can also have a significant bearing on the potential for motorist distraction. SED programmed to flash, scroll and/or display multiple quick messaging are more distracting to motorists than a single, static, succinct message. The following principles should be considered when using or operating SED:

- SED are to display information specific to the operation of the school and the dissemination of messages to the school community.
- The SED must not be used for other advertising purposes (for example, advertising local businesses and so on).
- Text only displays are preferred. The text displayed in a single screen should be the one colour (multiple colours are not easily read by motorists). The use of red and green colours is not permitted especially in close proximity to traffic signals. To assist with legibility, the text displayed in a single screen should be all the same style (font) and size (height).
- A font height (letter size) and font type should be selected to enable quick and easy reading of the message by both motorists and pedestrians. As a guide the minimum font height should be 150mm for a device in a 60km/h or less speed zone.
- The amount of text displayed should be kept to a minimum (for example, no more than a driver can read at a short glance).
- Each complete message is to be contained within the one display screen (a message must not continue over more than one screen). Messages are to be stand-alone (on the one display screen) and not require multiple screens to convey the complete meaning.
- The longer a message can be displayed the better. Each message should be displayed for a period which limits the number of drivers who will experience a message change while driving past. A minimum display time of 10 seconds applies outside school zone times, with absolutely no changes of message during times the school zone is active (typically 7-9am and 2-4pm, or 7am-4pm).
- Each message must remain static. They are not to move (fading, flying in and out, scrolling across the screen, blinking, flashing, changing of brightness, or the display of videos are not permitted).
- Each change of message should be completed instantaneously (within 0.1 of a second).
- SED must not display, reproduce or mimic an official traffic sign.
- In the event of a malfunction, the display screen must default to a blank screen.

Brightness / Luminance

Luminance characteristics for SED shall accord with the requirements outlined in RAM. The following Table 1 indicates the suggested luminance maximums for varying ambient lighting conditions. The final luminance levels are to be determined based on the site-specific requirements. For example, illumination levels of an electronic billboard operating in an ambient lighting environment of 10 lux must be 150 cd/m². Luminance levels must adapt to meet the ambient illumination values in the table below.

Table 1 – Luminance maximums for varying ambient lighting conditions for SED.

Illuminance (ambient light levels) (lux)	Luminance levels on electronic billboard or panel (cd/m²)
0-10	150
11-40	200
41-100	250
101-400	400
401-1000	700
1001-4000	1500
4001-10000	2300
10001-40000	4000
40001-100000	6000

The luminance listed above is the maximum allowed. SED should contain a light sensor to measure the levels of ambient light in the surrounding environment and adjust the brightness or luminance of the advertising device in accordance with the measured ambient light levels. SED which do not contain a light sensor must regulate the luminance output based on the time of day.

Attention is to be paid to the brightness and luminance of SED to ensure motorists are not dazzled by the device particularly on cloudy days or at night and the light from the device is not a nuisance to your school neighbours.

Message Content

Messages displayed on SED should be short, succinct and related to school activities.

Contact: If you have any queries, please contact the Corridor Policy Unit, Department of Transport and Main Roads by email CorridorPolicy@tmr.qld.gov.au.